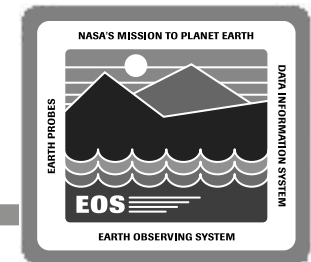


EOC Testing Plans

Andy Miller

29 May 1997

FOS TRR Roadmap



Overview Material

FOS Overview

- TRR Objective
- Schedule & Status

Release B Summary

- Release Capabilities
- Release/Reqmt. Status
- Process Summary

Test Readiness Status

Development Status

- Unit Test Results Summary
- SDF Status

Integration Status

- SWIT Status & Results Summary
- NCR Status

EOC Installation Status

- Installation/Checkout Status
- Changes Since Release A
- Hardware, COTS, Software
- PCA Preparation

Test Procedure Status

- Test Procedure Development Process
- Requirements Mapping Status
- Test Data/Test Tools

EOC Test Processes/Plans

EOC Testing Plans

- Test Environment Status
- Test Schedule
- Test Activities
- Test Process

Concurrent Activities

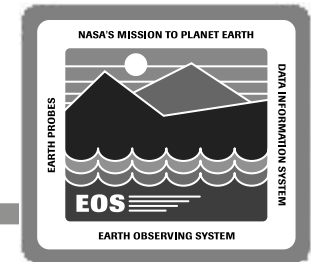
ECT-2

- Preparation Status
- Key Activities

IST Installation

- Status
- Key Activities
- Release B IST Integration Plan

EOC Test Environment



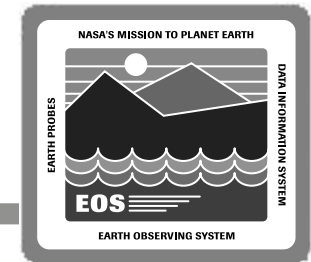
Dry-Run/Formal Testing conducted at EOC (GSFC Bldg. 32)

- **Verifies test configuration is well-defined and can be migrated from Mini-EOC**
- **Verifies FOS functionality and performance in an operational environment**

Test configuration at the Mini-EOC (EDF) models test environment at the EOC (GSFC Building 32)

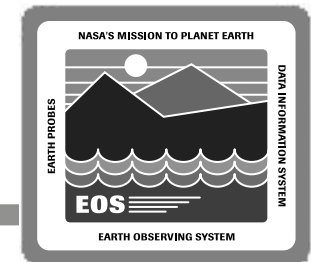
- **Hardware**
- **Software**
- **Facilities**

EOC Test Environment (continued)

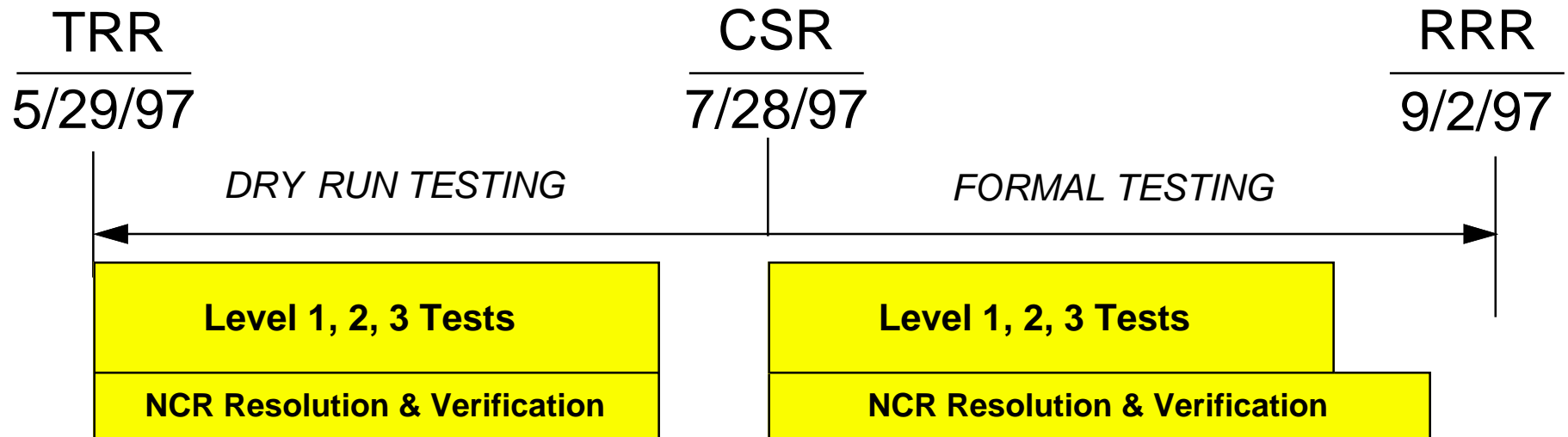


- **Strict control of test environment**
 - **Allows for safe archive of test data & reporting information**
 - Data sets (alphanumeric page definitions, archive files, etc.)**
 - Data drivers**
 - Screen snaps**
 - Test reports/logs**
 - **Support Lan and dedicated work stations**
 - **Separate room**
 - **Restricted access via test user accounts**
 - **Patch Process**
 - Controlled deliveries by integration team**

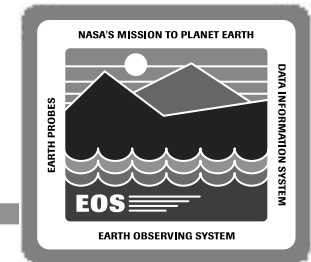
FOS Test Schedule at GSFC



FOS TEST AT GSFC



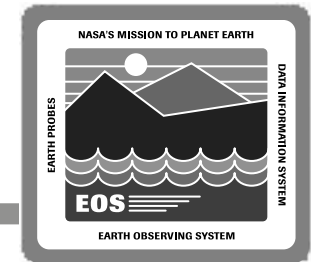
FOS Test Activities: Dry Runs



Dry Run Test Period

- **Following TRR, the Test Team will check out the installed FOS software, focusing on generating the data base and bringing up the system**
- **Dry run of infrastructure tests performed, followed by subsystem tests, then end-to-end tests**
- **Procedure redlines made during dry runs used to edit test procedures prior to formal test**
- **Requirements check-off**
- **Problems documented via NCRs**
- **Patch deliveries and regression testing**
- **FCA preparation**

FOS Test Activities: Dry Runs (continued)



Dry Run Test Period

Test results organized & available to FOS community

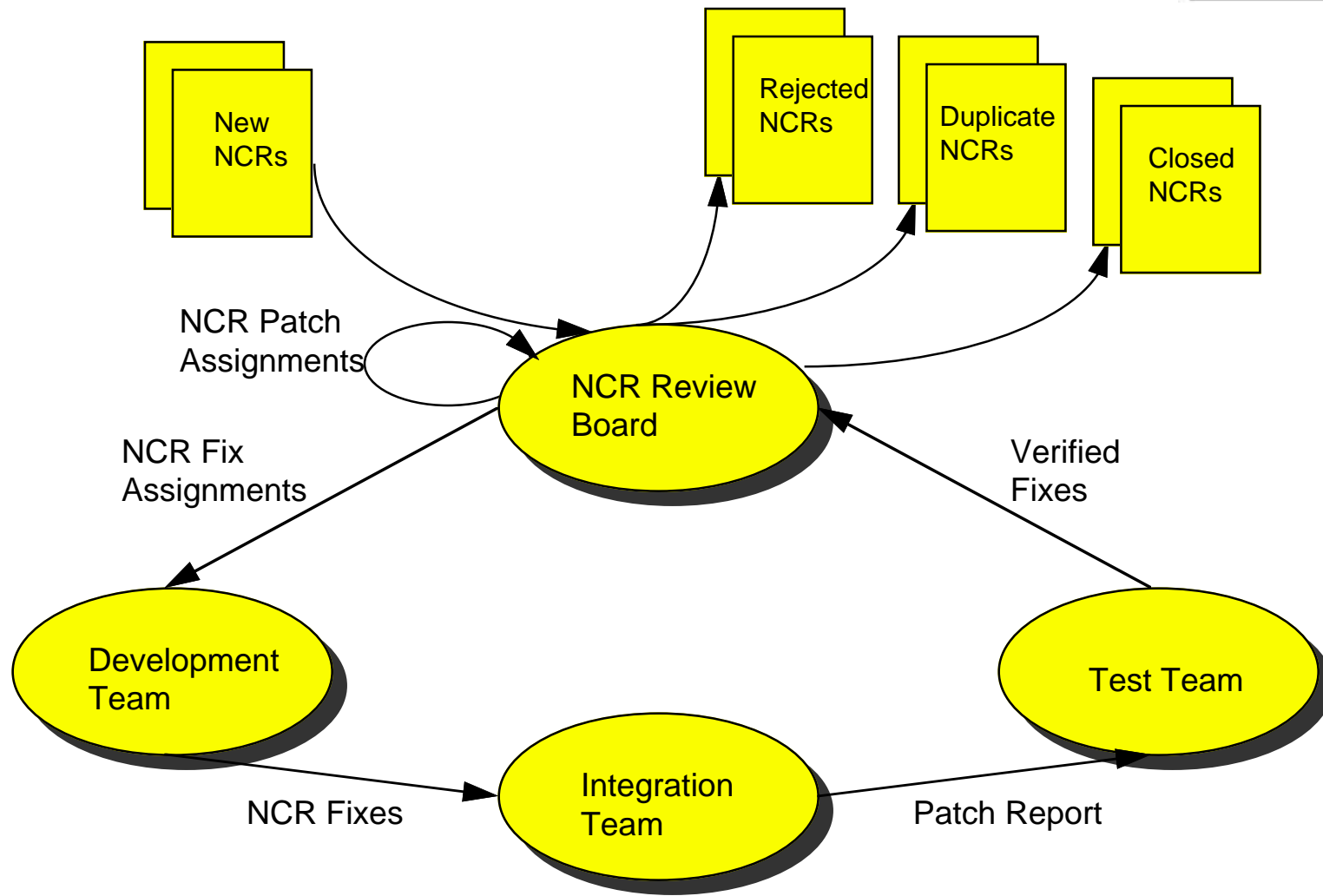
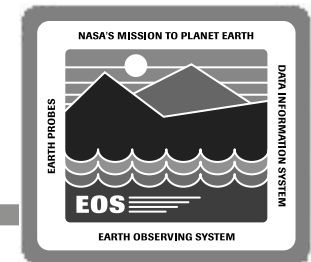
- **Softcopy of test logs available via EDHS**
- **Hardcopies of test logs organized, filed & made available at the EOC**

NCRs & Test Logs updated on a daily basis

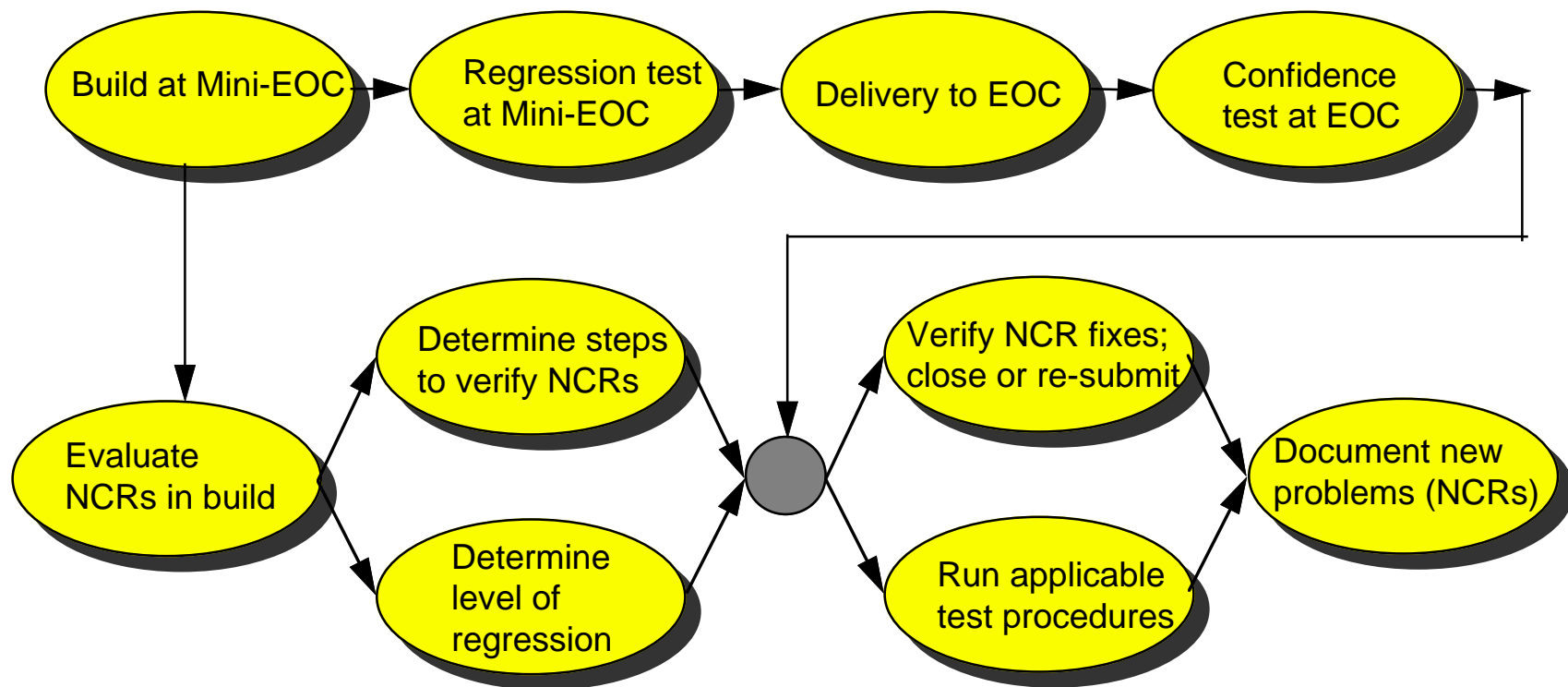
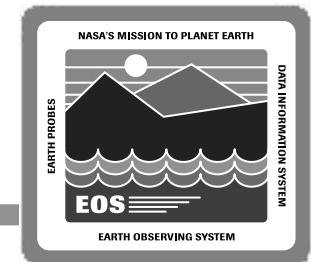
- **PCs provided at the EOC for dedicated test use**
- **Plan is to provide PC connectivity to the FOS LAN at Landover**

Dry Run tests culminate in CSR

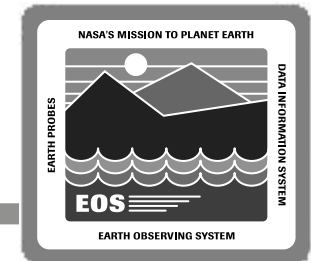
NCR Workoff Process



Patch Process



FOS FCA Preparation



FOS System Engineers

- Requirements status
- NCR listing for each partial or failed requirement

Quality Assurance

- Monitor NCRs
- Audit FCA materials

Test Team

- Analysis and status of each test
- Write NCRs for verification issues



Key FCA Products

Test Status

- Status for the 104 procedures

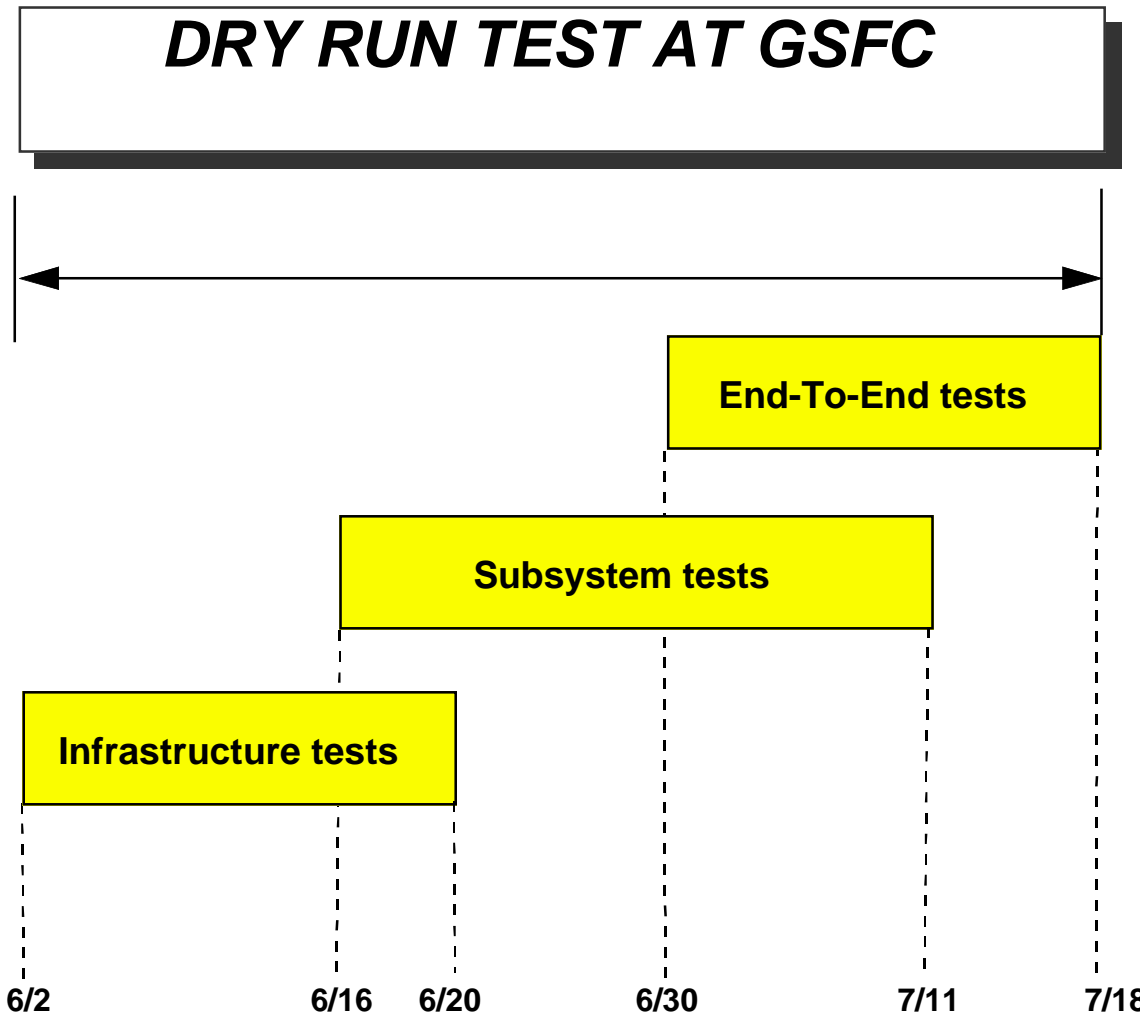
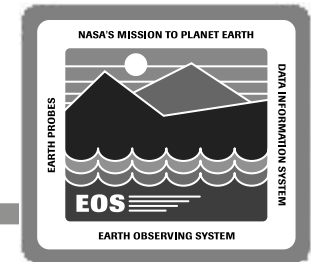
Requirements Status

- Verification status for all L3 & RbRs
- Status is full, partial, or failed
- NCR listed for each partial & failed req't

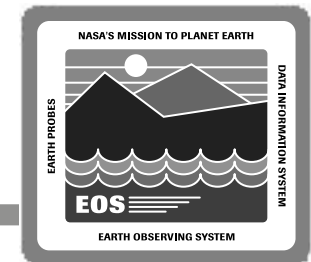
NCR Listing

- Status of all NCRs in the Rel_B project

Dry Run Test Schedule at GSFC



Level 1 - Infrastructure Tests



Planning & Scheduling and Offline Thread Tests:

- Activity Definer Tool
- BAP Definer Tool
- Genl. Scheduler & Timeline
- Activity Constraint Definitions
- Database editing, reports and backups

Real-time and Analysis Thread Tests:

- Logical String Config
- System Startup
- NCC connectivity
- Dataset Generation
- Standing Order Manage
- Analysis Request Management
- CMD Authorization
- Event Display and Processing
- Alarm Message Handling
- Info Window

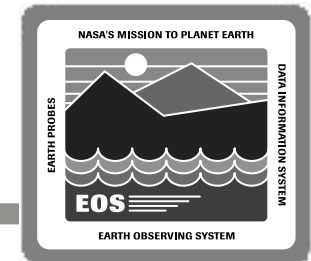
User Interface Thread Tests:

- User Authentication
- EL Directives
- Display Builder - Alphanumeric
- Pages & Tables and Graphs
- Schematics
- PROC Builder
- Screen Management
- User Customization
- Data Mover
- Quick Message Generator
- E-Mail
- On-Line Help



Level 1
Data Base Ingest, Format, Validation, and ODF Generation

Level 2 - Subsystem Tests



Planning & Scheduling and Offline Thread Tests:

- DAS Generation
- What-If Planning & Scheduling
- Late Changes
- Contact Scheduler
- Scheduling Loads for Uplink
- Load Val. & Gen (ATC, RTS, FSW, Table, Microprocessor)
- Load Ingest
- Memory Dump Image

Real-time and Thread Tests:

- Telemetry Decommutation
- Telemetry EU Conversion
- Limits Processing
- Telemetry Replay Processing
- Multi-Byte Param. Processing
- Tele. Archive & Data Dropout
- Command Generation
- Manual & GS Commanding
- Command Modes, Telem. Ver., and Cmd Receipt Ver.
- GS Control & Manipulation
- Load uplink
- NCC GCMR Processing & UPD

Analysis Thread Tests:

- Clock Correlation RDD and USCCS Methods
- Special Processing Algorithms
- Time Order Downlink
- User Specified Statistics
- System Specified Statistics
- Reports & Analysis Products
- S/C Activity Log
- SSR Monitoring
- S/C State Check



User Interface & Contact Thread Test

- Procedure Control & Execution
- OASIS/CSTOL Conversion

Level 2 - Subsystem

- CODA Processing and Pre-Cmd Readiness
- SCS Summary Report Processing
- Receive and Forward Trash Buffer Data



Level 1 - Infrastructure

Level 3 - End-to-End Tests

